

**“Financial Evaluation Report”**

**To The**

**Iowa General Assembly**

**For January 10, 2011**

**Board of Trustees  
Municipal Fire and Police  
Retirement System of Iowa  
7155 Lake Drive, Suite 201  
West Des Moines, Iowa 50266**

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HOUSE OF REPRESENTATIVES

## **BOARD OF TRUSTEES MEMBERSHIP (Members serve a four year term)**

### **Two fire & two police representatives**

**Police - Appointed by the Iowa State Police Association**

**Marty Pottebaum, retired, Sioux City**

**Judy Bradshaw, active, Des Moines (Chairperson)**

**Fire - Appointed by the Iowa Association of Professional Fire Fighters**

**Bob Hamilton, retired, Sioux City**

**June Anne Gaeta, active, Muscatine**

### **Four city representatives - Appointed by the Iowa League of Cities**

**Jody E. Smith, West Des Moines**

**Duane Pitcher, Ames**

**Allen McKinley, Des Moines**

**P. Kay Cmelik, Grinnell**

### **A private citizen - Selected by the Board of Trustees**

**Mary Bilden, Boone (CPA) (Vice Chairperson)**

### **Two Senators from the Iowa Senate and two Representatives from the Iowa House (non-voting)**

**New appointments due January 2011**

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## ***I. Introduction***

In 2010, the Iowa General Assembly enacted HF 2518 which included provisions requiring the Board of Trustees of the Municipal Fire and Police retirement System (“the Board”) to conduct examinations of the financial provisions of the pension plan established by Iowa Code Chapter 411 (“Chapter 411”). The Board is directed to submit reports to the General Assembly concerning any recommendations the Board develops as a result of the reviews.

*Sec. 44. Section 411.5, Code 2009, is amended by adding the following new subsection:*

*16. Benefits and financing review. At least every two years, the board shall review the benefits and finances provided under this chapter. The board shall make recommendations to the general assembly concerning this review, which shall include recommendations concerning the long-term financing and benefits policy of the system.*

***Sec. 55. STATEWIDE FIRE AND POLICE RETIREMENT SYSTEM - BOARD REPORT.***

*1. The board of trustees of the statewide fire and police retirement system created in chapter 411, as enacted by this division of this Act, shall conduct a comprehensive examination of the benefits and finances provided under chapter 411, including an examination of the long-term financing and benefits policy of the system, with the goal of making recommendations for benefit and other statutory changes to the system that will maintain an adequate retirement for members at a reasonable cost to members and employers.*

*2. On or before January 10, 2011, the board shall file a report with the general assembly which contains the results of the comprehensive examination and any recommendations for benefit or other statutory changes to the system.*

During 2010, the Board of Trustees conducted an examination of the four major elements of the financial provisions of the plan:

- |                       |                            |
|-----------------------|----------------------------|
| A. Actuarial Policies | B. Investments Policy      |
| C. Benefit Plan       | D. Contribution Structure. |

In accordance with the statutory provisions, the Board of Trustees hereby submits this report.

## ***II. Financial Components of the Plan***

### **A. Actuarial Policies**

#### **“Financial Profile and Funding”**

At the May 2010 meeting, the Board evaluated the financial challenge, as described below:

#### **A. Description of the Challenge**

The investment returns resulting from the 2007 – 2009 economic crisis created a funding shortfall for the retirement system. As stipulated in Chapter 411, the actuarial valuation process utilized by the plan systematically responds to actuarial gains and losses by adjusting the employer contribution requirements for the system.

#### **B. Condition of the Plan - Current Financial Profile and Impact of 2007 – 2009 Recession**

	June 30, 2007	June 30, 2009	June 30, 2010
- Market Value	\$1,953,616,434	\$1,434,583,769	\$1,534,412,575
- Investment Return (Inception to date)	9.6%	6.8%	7.01%
- Actuarial Liabilities	\$1,825,902,983	\$2,000,030,545	\$2,077,334,749
- Asset Gain/ (Loss) For Prior 5 Years	\$ 464,099,966	(\$392,115,468)	(\$405,986,285)
- Annual Recognized Gain/ (Loss)	\$ 116,024,992	(\$88,460,787)	(\$86,551,243)

## **“Funding Concepts”**

At its May 2010 meeting, the Board reviewed the concepts established for the financing of the plan, including the actuarial method and assumptions.

- A. **“Long-Term Funding”** As stipulated by the statute, the system pursues a comprehensive financial policy which provides for the payment of pensions to retired members and members incurring disabilities, and to the surviving spouses and dependents of deceased members, thereby allowing for the orderly recruitment, retention, retirement, and replacement of individuals for the municipal public safety service. The concept involves funding the plan over the remaining average working life-time of the active membership.
- B. **“Actuarial Method and Assumptions”** As provided for by the statute, the Board of Trustees has adopted an actuarial valuation methodology and actuarial policies to address the “Long-Term Funding” requirements of the plan, as follows:
  - a) **“Aggregate Cost Valuation Method”** Calculates the plan’s contribution rate for all members as a group where the rate is determined as a percentage of annual payroll. The percentage is adjusted annually as plan experience varies from the actuarial assumptions.
    - 1. The Board has adopted a five year average smoothing concept for Market Valuations to value actuarial assets.
    - 2. The Aggregate Cost Method provides for a Funding Period: over the average remaining working lifetime of membership - 19+ years.
  - b) **“Actuarial Assumptions”** Important assumptions adopted by the Board are as follows:
    - 1. Interest Rate Assumption (return assumption): 7.5% per annum
    - 2. Salary Growth Assumption: varies by age

## **“Actuarial Action and Alternative Concepts”**

**At its October 2010 meeting, the Board received and reviewed reports on the following, for the period ending June 30, 2010.**

- A. Received July 1, 2010 Actuarial Report: Following review with the System’s actuary, the Board of Trustees adopted the City Contribution Rate (See Attachment One for list of Cities) to be effective July 1, 2011: 24.76%.**
- B. Additionally, the Board received and examined actuarial projections involving a forecast of rates and funding progress over a twenty year period. Specifically, the actuary provided an updated projection which forecasts the rate of growth of the City Contribution Rate under three separate return assumptions and the forecast of funding status over a twenty year period. (See Attachment Two – 20 Year Projections)**
- C. The actuary also provided a report which outlined potential adjustments to the current actuarial policy:**
  - 1) Modify the period used for Market Valuation of Assets: the concept reviewed involved changing from a 5 year averaging period to a longer period**
  - 2) Define the financial losses incurred due to the 2007 – 2008 recession and spread the funding of that loss over an extended period; i.e. – over a 20 year period.**
  - 3) Adoption of an alternative actuarial methodology: to utilization of the Entry Age Normal Actuarial Valuation Method from the Aggregate Cost Method.**

At its November 2010 meeting, the Board discussed in detail the following concepts:

- A. Adjustment of the amortization schedule to either 25 years or 30 years.
- B. Adoption of alternative actuarial methodology, i.e. to entry age normal.
- C. Increasing the asset valuation period which is currently set at five years.
- D. Isolating extraordinary investment return occurrences (i.e. returns less than 3.75% or greater than 15%) and smoothing them over an extended period of time, greater than the current five year method.



## B. Investment Policies

The investment program and policies were extensively reviewed in 2009 and early 2010. The review included the conduct of a comprehensive asset allocation/liability valuation performed by the system's investment consultant. The Board evaluated a series of investment allocation policy alternatives, in the context of the current financial profile of the plan. A revised policy was adopted in March 2010.

*The Board will continue to review portfolio performance and will make allocations within the policy.*

### *2010 Investment Allocation Policy, Return and Risk Assumptions*

#### a) Asset Allocation Policy

US Equity	25%	
Non-US Equity	25%	
Total Equity		50.0%
Real Estate	10.0%	
Alternatives (Privates)	20.0%	
Total Alternatives		30.0%
Fixed Income	20.0%	
Cash	0.0%	
Total Debt Oriented		20.0%

#### b) Performance and Risk Expectation

Plan Performance Expectation %	8.46%
Risk (Standard Deviation) %	12.42%

## **C. Benefit Plan**

At its June 2010 meeting, the Board considered the Benefit Plan established by Iowa Code Chapter 411, for permanent, full-time police and fire personnel in participating cities in forty-nine cities.

The benefit plan is as follows:

- a. **Defined Benefit Retirement Formula (Service Retirement)**    *Total Maximum % = 82%*  
    3% for each service year for first 22 years = 66%    *plus*  
    2% for each service year for next 8 years    = 16%  
    *Multiplied against High 3 years of "earnable compensation"*
- b. **Retirement Eligibility Age**    *At or after age 55 - not to exceed age 65*
- c. **Annual Escalator**    *Eligible retirees/beneficiaries benefit is annually adjusted by:*
  1. *Previous monthly benefit multiplied by 1.5%, and*
  2. *An additional dollar amount based on the following incremental steps:*
    - \$35 - retired at least 20 years*
    - \$30 - retired at least 15, but less than 20 years*
    - \$25 - retired at least 10, but less than 15 yrs.*
    - \$20 - retired at least 5, but less than 10 years*
    - \$15 - retired less than five years*
- d. **Disability Benefits (not less than benefit % currently accrued under the Service Retirement)**
  1. **Accidental:**    *60% of the average final compensation or service retirement*
  2. **Ordinary:**    *50% of the average final compensation or 25% if less than 5 years*
- e. **Death Benefits**
  1. **Accidental:** *pension equal to 50% of average compensation, plus 6% child benefit*
  2. **Ordinary:** *pension equal to 40% of average compensation, plus 6% child benefit*
  3. **Lump Sum:** *\$100,000 if member's death is due to traumatic injury on duty.*

**f. Terminated Vested Benefits**

*If terminate employment prior to age 55 or with less than 22 years of service, the member retires under the service formula but is not eligible for the annual escalation*

**g. Refund of Contributions**

*Upon termination, a member may withdraw their contributions with interest calculated for the period of membership; forfeits any rights to monthly pension*

**h. Membership**

- 1. Active members: full time police and fire personnel in a covered employer (49)*
- 2. Retirees & beneficiaries: retired members and upon death, their beneficiaries*

The Board discussed the development of the benefit plan, specifically, the evolution of the changes since the inception of the consolidated system.

1. In November 1998, the General Assembly received a comprehensive report on the comparability of the pension benefit plans for public safety workers in Iowa's public retirement systems. The study was conducted in response to a mandate from the Iowa General Assembly.
2. The current benefit formula was adopted by the Iowa General Assembly in an effort to establish parity between the benefit plans for these classes of workers. The changes made for Chapter 411 occurred in 2000.
3. The membership is provided the Chapter 411 retirement plan without additional social security coverage. This condition traces its history back to the inception of the Chapter 411 plan in 1934 and the later adoption of social security coverage for Iowa's public workers in 1953. Public workers covered by an existing retirement plan, as of the date of

**Iowa's adoption of Social Security coverage (1953), were not eligible by Federal law for Social Security coverage.**

- 4. An important component of the benefit plan is the disability program which serves as a substitute for long-term workers compensation benefits.**

**The Board of Trustees discussed the origin of the current levels of benefits at the June 2010 Board meeting, Subsequently, the Board received copies of the 1998 Comprehensive Study which lead to its establishment.**

## **D. Contribution Structure**

The Board of Trustees discussed the origin of the current contribution structure as established by the 1990 General Assembly. The Board requested and received copies of the 1998 Comprehensive Study which included a discussion of this topic.

The contribution structure provides for the funding of the benefit plan in response to the periodic actuarial valuations of the plan's funding requirements.

Since the inception of the plan design in 1934, the membership has contributed at various rates established by the legislature in the plan document (Iowa Code Chapter 411).

Throughout the existence of the plan, the statute has stipulated that the employing cities provide through regular contributions the additional monies to fund the plan. The annual actuarial valuation of the plan's assets and liabilities determines the employers' contribution requirement (rate) for the ensuing year. Upon submittal by the system's actuary and following its review, the Board of Trustees is statutorily required to adopt the rate.

The contribution structure is currently as follows:

- a. Employee rate - fixed by Statute: 9.40%
- b. Employer rate - as determined by annual actuarial valuation (not less than 17%)
- c. State contribution - being phased out

### ***III. Deliberation***

At its November 18, 2010 meeting, the Board of Trustees completed its review and voted on the following motion and amendments thereto:

***Initial Motion: The Board having completed its review, hereby submits the financial evaluation report to the legislature stating the following:***

***A) There have been no changes adopted by the Board at this time to the actuarial policy or to the investment policy.***

***B) There are no specific recommendations related to the contribution structure and benefit plan.***

***Several amendments to the Motion were submitted and voted on by the Board of Trustees:***

- 1. The following amendment to the initial motion was proposed:  
- Eliminate the 17% minimum contribution rate requirement for the Cities  
Ayes – 4. Nays – 5. Amendment was not adopted.***
- 2. The following amendment to the initial motion was proposed:  
- Beginning July 1, 2012, the total overall contribution rate shall be shared – 60% employers and 40% employees.  
Ayes – 4. Nays – 5. Amendment was not adopted.***
- 3. The following amendment to the initial motion was proposed:  
- Change the Actuarial Valuation Methodology to Entry-Age Normal with a 25 year amortization schedule.  
Ayes – 4. Nays – 5. Amendment was not adopted.***

4. The following amendment to the initial motion was proposed:  
*- Beginning July 1, 2012, if the cities' contribution rate should go above 25.5%, then the percentage above 25.5% shall be split – 60% to the employers and 40% to the members.*  
*Ayes – 4. Nays – 5. Amendment was not adopted.*
5. The following amendment to the initial motion was proposed:  
*- Recommend that the Iowa General Assembly conduct an investigation of the impact on the System of implementing two-tiered contribution architecture with existing membership and those hired after July 1, 2012 as its two tiers.*  
*Ayes – 4. Nays – 5. Amendment was not adopted.*

#### **Initial Motion**

With no further amendments, the Board returned to the initial motion for a vote.  
*Ayes – 5. Nays – 4. Motion was adopted.*

#### ***IV. Board Findings***

Upon completion of its review and deliberation, the MFPRSI Board of Trustees submits the following for consideration of the legislature:

*A) There have been no changes adopted by the Board at this time to the actuarial policy or to the investment policy.*

*B) There are no specific recommendations for the statutorily established contribution structure for the employers and membership or for the benefit plan as provided for the membership in Iowa Code Chapter 411.*

The Board of Trustees recognizes that the plan sponsor is the General Assembly. The Board will continue to work diligently to meet its fiduciary duty to carry out the plan document in the best interests of the membership and the employers.

In the context thereof, the Board respectfully comments to the Iowa General Assembly that the content and scope of the benefit plan and contribution structure rests with the General Assembly and not with the Board of Trustees.



## **Attachment One – List of Cities**

**The forty-nine cities whose fire and/or police personnel are covered by Chapter 411:**

<b>Ames</b>	<b>Council Bluffs</b>	<b>Indianola</b>	<b>Ottumwa</b>
<b>Ankeny</b>	<b>Creston</b>	<b>Iowa City</b>	<b>Pella</b>
<b>Bettendorf</b>	<b>Davenport</b>	<b>Keokuk</b>	<b>Sioux City</b>
<b>Boone</b>	<b>Decorah</b>	<b>Knoxville</b>	<b>Spencer</b>
<b>Burlington</b>	<b>Des Moines</b>	<b>LeMars</b>	<b>Storm Lake</b>
<b>Camanche</b>	<b>DeWitt</b>	<b>Maquoketa</b>	<b>Urbandale</b>
<b>Carroll</b>	<b>Dubuque</b>	<b>Marion</b>	<b>Waterloo</b>
<b>Cedar Falls</b>	<b>Estherville</b>	<b>Marshalltown</b>	<b>Waverly</b>
<b>Cedar Rapids</b>	<b>Evansdale</b>	<b>Mason City</b>	<b>Webster City</b>
<b>Centerville</b>	<b>Fairfield</b>	<b>Muscatine</b>	<b>West Des Moines</b>
<b>Charles City</b>	<b>Fort Dodge</b>	<b>Newton</b>	
<b>Clinton</b>	<b>Fort Madison</b>	<b>Oelwein</b>	
<b>Clive</b>	<b>Grinnell</b>	<b>Oskaloosa</b>	

## **Attachment Two – 20 Year Actuarial Projections**

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2010	7/1/2011	7/1/2012	7/1/2013	7/1/2014	7/1/2015
Projected Market Return	N/A	7.50%	7.50%	7.50%	7.50%	7.50%
Actual & Projected Actuarial Return	N/A	0.62%	-1.06%	1.36%	8.11%	7.50%
- Market Value	1,534,413	1,592,234	1,662,196	1,744,831	1,844,550	1,956,495
- Actuarial Value	1,862,630	1,818,856	1,752,039	1,735,116	1,844,550	1,956,495
<b>Current Aggregate Method</b>						
Present Value of Future Benefits	2,759,529	2,876,473	2,996,259	3,118,709	3,243,605	3,370,685
Covered Payroll	242,481	254,605	266,062	278,035	290,547	303,621
Contribution Rates (% of Payroll)						
- Cities	24.76%	29.31%	34.51%	37.33%	35.81%	34.33%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.62%	0.29%	0.00%	0.00%	0.00%	0.00%
- Total	34.78%	39.00%	43.91%	46.73%	45.21%	43.73%
<b>Alternate Entry Age Normal Method</b>						
Funded Status						
- Actuarial Accrued Liability	2,296,382	2,397,800	2,501,899	2,608,286	2,716,746	2,827,023
- Actuarial Value Assets	1,862,630	1,818,856	1,752,039	1,735,116	1,844,550	1,956,495
- Unfunded Accrued Liability	433,752	578,944	749,860	873,170	872,196	870,528
- Funded Percentage	81.11%	75.86%	70.03%	66.52%	67.90%	69.21%
Contribution Rates (% of Payroll)						
- Cities	22.51%	26.65%	31.24%	33.77%	32.68%	31.62%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.62%	0.29%	0.00%	0.00%	0.00%	0.00%
- Total	32.53%	36.34%	40.64%	43.17%	42.08%	41.02%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
Projected Market Return	7.50%	7.50%	7.50%	7.50%	7.50%
Actual & Projected Actuarial Return	7.50%	7.50%	7.50%	7.50%	7.50%
- Market Value	2,068,378	2,179,580	2,289,643	2,397,998	2,504,023
- Actuarial Value	2,068,378	2,179,580	2,289,643	2,397,998	2,504,023
<b>Current Aggregate Method</b>					
Present Value of Future Benefits	3,499,639	3,630,100	3,761,641	3,893,766	4,025,906
Covered Payroll	317,284	331,562	346,483	362,074	378,368
Contribution Rates (% of Payroll)					
- Cities	32.96%	31.68%	30.49%	29.39%	28.37%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	42.36%	41.08%	39.89%	38.79%	37.77%
<b>Alternate Entry Age Normal Method</b>					
Funded Status					
- Actuarial Accrued Liability	2,938,810	3,051,748	3,165,420	3,279,341	3,392,953
- Actuarial Value Assets	2,068,378	2,179,580	2,289,643	2,397,998	2,504,023
- Unfunded Accrued Liability	870,432	872,168	875,777	881,343	888,930
- Funded Percentage	70.38%	71.42%	72.33%	73.12%	73.80%
Contribution Rates (% of Payroll)					
- Cities	30.65%	29.76%	28.95%	28.21%	27.54%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	40.05%	39.16%	38.35%	37.61%	36.94%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026
Projected Market Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Actual & Projected Actuarial Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
- Market Value	2,607,036	2,706,252	2,800,768	2,889,548	2,971,493	3,045,354
- Actuarial Value	2,607,036	2,706,252	2,800,768	2,889,548	2,971,493	3,045,354
<b>Current Aggregate Method</b>						
Present Value of Future Benefits	4,157,404	4,287,512	4,415,381	4,540,045	4,660,415	4,775,260
Covered Payroll	395,394	413,187	431,780	451,210	471,515	492,733
Contribution Rates (% of Payroll)						
- Cities	27.42%	26.53%	25.71%	24.95%	24.23%	23.57%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	36.82%	35.93%	35.11%	34.35%	33.63%	32.97%
<b>Alternate Entry Age Normal Method</b>						
Funded Status						
- Actuarial Accrued Liability	3,505,617	3,616,603	3,725,082	3,830,112	3,930,632	4,025,444
- Actuarial Value Assets	2,607,036	2,706,252	2,800,768	2,889,548	2,971,493	3,045,354
- Unfunded Accrued Liability	898,581	910,351	924,314	940,564	959,139	980,090
- Funded Percentage	74.37%	74.83%	75.19%	75.44%	75.60%	75.65%
Contribution Rates (% of Payroll)						
- Cities	26.94%	26.39%	25.90%	25.46%	25.06%	24.70%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	36.34%	35.79%	35.30%	34.86%	34.46%	34.10%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Projected Market Return	7.50%	7.50%	7.50%	7.50%
Actual & Projected Actuarial Return	7.50%	7.50%	7.50%	7.50%
- Market Value	3,109,654	3,162,868	3,203,158	3,228,609
- Actuarial Value	3,109,654	3,162,868	3,203,158	3,228,609
<b>Current Aggregate Method</b>				
Present Value of Future Benefits	4,883,198	4,982,679	5,071,966	5,149,118
Covered Payroll	514,906	538,077	562,290	587,593
Contribution Rates (% of Payroll)				
- Cities	22.94%	22.36%	21.81%	21.29%
- Members	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%
- Total	32.34%	31.76%	31.21%	30.69%
<b>Alternate Entry Age Normal Method</b>				
Funded Status				
- Actuarial Accrued Liability	4,113,200	4,192,391	4,261,323	4,318,107
- Actuarial Value Assets	3,109,654	3,162,868	3,203,158	3,228,609
- Unfunded Accrued Liability	1,003,546	1,029,523	1,058,165	1,089,498
- Funded Percentage	75.60%	75.44%	75.17%	74.77%
Contribution Rates (% of Payroll)				
- Cities	24.39%	24.11%	23.86%	23.64%
- Members	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%
- Total	33.79%	33.51%	33.26%	33.04%

**Municipal Fire Police Retirement System of Iowa**  
**Various Investment Returns Impact on Contribution Rates**  
**(Amounts in Thousands)**

ACTUARIAL VALUATION DATE	7/1/2010	7/1/2011	7/1/2012	7/1/2013	7/1/2014	7/1/2015
Projected Market Return	N/A	3.75%	3.75%	3.75%	3.75%	3.75%
Actual & Projected Actuarial Return	N/A	0.01%	-2.58%	-1.14%	4.88%	3.61%
- Market Value	1,534,413	1,535,701	1,544,705	1,562,479	1,594,300	1,636,145
- Actuarial Value	1,862,630	1,807,550	1,713,842	1,655,174	1,709,109	1,752,812
<b>Current Aggregate Method</b>						
Present Value of Future Benefits	2,759,529	2,876,473	2,996,259	3,118,709	3,243,605	3,370,685
Covered Payroll	242,481	254,605	266,062	278,035	290,547	303,621
Contribution Rates (% of Payroll)						
- Cities	24.76%	29.73%	35.86%	40.03%	40.19%	40.63%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.62%	0.29%	0.00%	0.00%	0.00%	0.00%
- Total	34.78%	39.42%	45.26%	49.43%	49.59%	50.03%
<b>Alternate Entry Age Normal Method</b>						
Funded Status						
- Actuarial Accrued Liability	2,296,382	2,397,800	2,501,899	2,608,286	2,716,746	2,827,023
- Actuarial Value Assets	1,862,630	1,807,550	1,713,842	1,655,174	1,709,109	1,752,812
- Unfunded Accrued Liability	433,752	590,250	788,057	953,112	1,007,637	1,074,211
- Funded Percentage	81.11%	75.38%	68.50%	63.46%	62.91%	62.00%
Contribution Rates (% of Payroll)						
- Cities	22.51%	27.00%	32.37%	36.04%	36.35%	36.90%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.62%	0.29%	0.00%	0.00%	0.00%	0.00%
- Total	32.53%	36.69%	41.77%	45.44%	45.75%	46.30%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
Projected Market Return	3.75%	3.75%	3.75%	3.75%	3.75%
Actual & Projected Actuarial Return	3.64%	3.66%	3.66%	3.65%	3.65%
- Market Value	1,676,806	1,716,893	1,756,030	1,793,685	1,829,285
- Actuarial Value	1,795,959	1,838,870	1,880,945	1,921,507	1,959,917
<b>Current Aggregate Method</b>					
Present Value of Future Benefits	3,499,639	3,630,100	3,761,641	3,893,766	4,025,906
Covered Payroll	317,284	331,562	346,483	362,074	378,368
Contribution Rates (% of Payroll)					
- Cities	41.02%	41.33%	41.57%	41.75%	41.87%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	50.42%	50.73%	50.97%	51.15%	51.27%
<b>Alternate Entry Age Normal Method</b>					
Funded Status					
- Actuarial Accrued Liability	2,938,810	3,051,748	3,165,420	3,279,341	3,392,953
- Actuarial Value Assets	1,795,959	1,838,870	1,880,945	1,921,507	1,959,917
- Unfunded Accrued Liability	1,142,851	1,212,878	1,284,475	1,357,834	1,433,036
- Funded Percentage	61.11%	60.26%	59.42%	58.59%	57.76%
Contribution Rates (% of Payroll)					
- Cities	37.41%	37.85%	38.24%	38.57%	38.87%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	46.81%	47.25%	47.64%	47.97%	48.27%



# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026
Projected Market Return	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
Actual & Projected Actuarial Return	3.64%	3.62%	3.61%	3.59%	3.57%	3.55%
- Market Value	1,862,222	1,891,808	1,917,317	1,937,933	1,952,707	1,960,624
- Actuarial Value	1,995,532	2,027,622	2,055,410	2,078,032	2,094,477	2,103,669
<b>Current Aggregate Method</b>						
Present Value of Future Benefits	4,157,404	4,287,512	4,415,381	4,540,045	4,660,415	4,775,260
Covered Payroll	395,394	413,187	431,780	451,210	471,515	492,733
Contribution Rates (% of Payroll)						
- Cities	41.94%	41.96%	41.92%	41.83%	41.70%	41.51%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	51.34%	51.36%	51.32%	51.23%	51.10%	50.91%
<b>Alternate Entry Age Normal Method</b>						
Funded Status						
- Actuarial Accrued Liability	3,505,617	3,616,603	3,725,082	3,830,112	3,930,632	4,025,444
- Actuarial Value Assets	1,995,532	2,027,622	2,055,410	2,078,032	2,094,477	2,103,669
- Unfunded Accrued Liability	1,510,085	1,588,981	1,669,672	1,752,080	1,836,155	1,921,775
- Funded Percentage	56.92%	56.06%	55.18%	54.26%	53.29%	52.26%
Contribution Rates (% of Payroll)						
- Cities	39.12%	39.33%	39.49%	39.62%	39.71%	39.76%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	48.52%	48.73%	48.89%	49.02%	49.11%	49.16%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Projected Market Return	3.75%	3.75%	3.75%	3.75%
Actual & Projected Actuarial Return	3.53%	3.50%	3.47%	3.43%
- Market Value	1,960,613	1,951,384	1,931,563	1,899,634
- Actuarial Value	2,104,462	2,095,490	2,075,290	2,042,249
<b>Current Aggregate Method</b>				
Present Value of Future Benefits	4,883,198	4,982,679	5,071,966	5,149,118
Covered Payroll	514,906	538,077	562,290	587,593
Contribution Rates (% of Payroll)				
- Cities	41.27%	40.98%	40.64%	40.25%
- Members	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%
- Total	50.67%	50.38%	50.04%	49.65%
<b>Alternate Entry Age Normal Method</b>				
Funded Status				
- Actuarial Accrued Liability	4,113,200	4,192,391	4,261,323	4,318,107
- Actuarial Value Assets	2,104,462	2,095,490	2,075,290	2,042,249
- Unfunded Accrued Liability	2,008,738	2,096,901	2,186,033	2,275,858
- Funded Percentage	51.16%	49.98%	48.70%	47.30%
Contribution Rates (% of Payroll)				
- Cities	39.76%	39.73%	39.66%	39.54%
- Members	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%
- Total	49.16%	49.13%	49.06%	48.94%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2010	7/1/2011	7/1/2012	7/1/2013	7/1/2014	7/1/2015
Projected Market Return	N/A	10.00%	10.00%	10.00%	10.00%	10.00%
Actual & Projected Actuarial Return	N/A	1.03%	-0.04%	3.06%	10.29%	10.10%
- Market Value	1,534,413	1,629,932	1,742,898	1,873,919	2,027,124	2,197,407
- Actuarial Value	1,862,630	1,826,396	1,777,981	1,790,557	1,940,502	2,104,021
<b>Current Aggregate Method</b>						
Present Value of Future Benefits	2,759,529	2,876,473	2,996,259	3,118,709	3,243,605	3,370,685
Covered Payroll	242,481	254,605	266,062	278,035	290,547	303,621
Contribution Rates (% of Payroll)						
- Cities	24.76%	29.04%	33.59%	35.45%	32.71%	29.77%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.62%	0.29%	0.00%	0.00%	0.00%	0.00%
- Total	34.78%	38.73%	42.99%	44.85%	42.11%	39.17%
<b>Alternate Entry Age Normal Method</b>						
Funded Status						
- Actuarial Accrued Liability	2,296,382	2,397,800	2,501,899	2,608,286	2,716,746	2,827,023
- Actuarial Value Assets	1,862,630	1,826,396	1,777,981	1,790,557	1,940,502	2,104,021
- Unfunded Accrued Liability	433,752	571,404	723,918	817,729	776,244	723,002
- Funded Percentage	81.11%	76.17%	71.07%	68.65%	71.43%	74.43%
Contribution Rates (% of Payroll)						
- Cities	22.51%	26.42%	30.47%	32.20%	30.08%	27.79%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.62%	0.29%	0.00%	0.00%	0.00%	0.00%
- Total	32.53%	36.11%	39.87%	41.60%	39.48%	37.19%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
Projected Market Return	10.00%	10.00%	10.00%	10.00%	10.00%
Actual & Projected Actuarial Return	10.09%	10.09%	10.11%	10.13%	10.15%
- Market Value	2,372,019	2,549,613	2,729,686	2,911,662	3,094,960
- Actuarial Value	2,271,101	2,440,651	2,612,377	2,785,838	2,960,514
<b>Current Aggregate Method</b>					
Present Value of Future Benefits	3,499,639	3,630,100	3,761,641	3,893,766	4,025,906
Covered Payroll	317,284	331,562	346,483	362,074	378,368
Contribution Rates (% of Payroll)					
- Cities	26.96%	24.28%	21.75%	19.33%	17.04%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	36.36%	33.68%	31.15%	28.73%	26.44%
<b>Alternate Entry Age Normal Method</b>					
Funded Status					
- Actuarial Accrued Liability	2,938,810	3,051,748	3,165,420	3,279,341	3,392,953
- Actuarial Value Assets	2,271,101	2,440,651	2,612,377	2,785,838	2,960,514
- Unfunded Accrued Liability	667,709	611,097	553,043	493,503	432,439
- Funded Percentage	77.28%	79.98%	82.53%	84.95%	87.25%
Contribution Rates (% of Payroll)					
- Cities	25.61%	23.55%	21.61%	19.77%	18.04%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	35.01%	32.95%	31.01%	29.17%	27.44%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026
Projected Market Return	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Actual & Projected Actuarial Return	10.16%	10.18%	10.20%	10.21%	10.21%	10.22%
- Market Value	3,278,766	3,462,233	3,653,594	3,853,116	4,060,880	4,276,930
- Actuarial Value	3,135,623	3,310,351	3,492,887	3,683,374	3,881,797	4,088,135
<b>Current Aggregate Method</b>						
Present Value of Future Benefits	4,157,404	4,287,512	4,415,381	4,540,045	4,660,415	4,775,260
Covered Payroll	395,394	413,187	431,780	451,210	471,515	492,733
Contribution Rates (% of Payroll)						
- Cities	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	26.40%	26.40%	26.40%	26.40%	26.40%	26.40%
<b>Alternate Entry Age Normal Method</b>						
Funded Status						
- Actuarial Accrued Liability	3,505,617	3,616,603	3,725,082	3,830,112	3,930,632	4,025,444
- Actuarial Value Assets	3,135,623	3,310,351	3,492,887	3,683,374	3,881,797	4,088,135
- Unfunded Accrued Liability	369,994	306,252	232,195	146,738	48,835	(62,691)
- Funded Percentage	89.45%	91.53%	93.77%	96.17%	98.76%	101.56%
Contribution Rates (% of Payroll)						
- Cities	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%
- Members	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Total	26.40%	26.40%	26.40%	26.40%	26.40%	26.40%

# Municipal Fire Police Retirement System of Iowa

## Various Investment Returns Impact on Contribution Rates

(Amounts in Thousands)

ACTUARIAL VALUATION DATE	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Projected Market Return	10.00%	10.00%	10.00%	10.00%
Actual & Projected Actuarial Return	10.22%	10.23%	10.23%	10.23%
- Market Value	4,501,260	4,733,815	4,974,473	5,223,041
- Actuarial Value	4,302,363	4,524,420	4,754,188	4,991,478
<b>Current Aggregate Method</b>				
Present Value of Future Benefits	4,883,198	4,982,679	5,071,966	5,149,118
Covered Payroll	514,906	538,077	562,290	587,593
Contribution Rates (% of Payroll)				
- Cities	17.00%	17.00%	17.00%	17.00%
- Members	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%
- Total	26.40%	26.40%	26.40%	26.40%
<b>Alternate Entry Age Normal Method</b>				
Funded Status				
- Actuarial Accrued Liability	4,113,200	4,192,391	4,261,323	4,318,107
- Actuarial Value Assets	4,302,363	4,524,420	4,754,188	4,991,478
- Unfunded Accrued Liability	(189,163)	(332,029)	(492,865)	(673,371)
- Funded Percentage	104.60%	107.92%	111.57%	115.59%
Contribution Rates (% of Payroll)				
- Cities	17.00%	17.00%	17.00%	17.00%
- Members	9.40%	9.40%	9.40%	9.40%
- State	0.00%	0.00%	0.00%	0.00%
- Total	26.40%	26.40%	26.40%	26.40%